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(The cost of the Figure in the above paper was borne by the authors. They have asked me to state that the specimens of *A. Melanocephala* from Inhamitanga, Chiniziua and Dondo are in the National Museum, Bulawayo—Ed.)

Notes on *Terpsiphone* and *Coracina* spp. in the Malagasy Region

by C. W. Benson

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These notes result from studies in the British Museum (Natural History), London, the Muséum National d'Histoire Naturelle, Paris, and the University Museum of Zoology, Cambridge. The collections of birds in the last named are under my care. I am grateful to the authorities concerned for all necessary facilities, and particularly to Dr. F. Roux in Paris, who also allowed me to borrow specimens of *T. b. bourbonnensis*.

Terpsiphone mutata (Linnaeus)

Benson (1960b: 200–201) gave bill/wing ratios for some species in the Comoros showing a higher ratio than in the same species in Madagascar, and none lower. According to Benson & Penny (*Phil. Trans. R. Soc. B* 260, 1971), on Aldabra *Nesillas aldabranus* and *Dicrurus aldabranus* are also relatively long-billed, although there is an exception in that *Nectarinia sovimanga* stock in the Aldabra and Comoro archipelagos as a whole is short-billed. Benson (1960b) did not give any figures for *T. mutata*, because (1960a: 73) he provided wing-lengths but no bill-lengths. This deficiency is now remedied in Table 1. The Comoro wing-lengths are the same as in Benson (1960a), with the addition of a few from specimens from Anjouan and Grand Comoro in Cambridge.

The Comoro samples are relatively small, though on all four islands the bill is evidently longer than in Madagascar. But on Grand Comoro the difference amounts merely to a slightly higher ratio in the female only. The difference is best marked on Anjouan and Moheli, though the sample from Moheli is particularly small. In *Nesillas typica*, too, the difference is better marked on Anjouan than on Grand Comoro. Grant (*Evolution* 19, 1965: 364) has suggested that island birds often have longer bills than their mainland counterparts to enable them to deal with a greater range of food-sizes, resulting from the frequent absence on islands of other species with similar ecological requirements. *Terpsiphone mutata* on Anjouan and Grand Comoro is a forest dweller, as is also *N. typica*, though it is perhaps significant that Benson (1960a: 82) found the latter more catholic in habitat on Anjouan than on Grand Comoro. The only other species of at all similar size which these two insectivores are likely to come frequently into contact with, and so compete with, is the strictly forest dwelling *Humblotia flavirostris*, which is however confined to Grand Comoro. This may help explain their longer bills on Anjouan. Other possible competitors, to a lesser degree, are *Zosterops* and *Nectarinia* spp., but not so strictly confined to forest. Nevertheless it is also interesting that *N. notata*, like *Humblotia*, is present on Grand Comoro but not on Anjouan. Competition should be at a minimum on Mayotte, since not only are *Humblotia* and *Nectarinia notata* unrepresented but so too is

Nesillas. Thus the bill-length in *T. mutata* might be expected to be higher than shown in the table. But Mayotte is the nearest of the islands to Madagascar, and the likelihood of gene-flow from what is presumably the parent stock is accordingly greater. In contrast to the other three Comoros, sexual dimorphism in colour and tail-length has not been reduced; see below.

Table 1. Some measurements for *Terpsiphone mutata*, in millimetres

	Wing		Culmen from base	$\frac{100 \times \text{culmen}}{\text{wing}}$	
Madagascar (<i>T. m. mutata</i>)					
	number		number		
♂♂	146	74-82 (78.7)	141	15-18 (16.8)	21.3
♀♀	51	70-78 (75.1)	51	15-18 (16.2)	21.6
Mayotte (<i>T. m. pretiosa</i>)					
♂♂	22	73-79 (75.8)	19	16.5-18.5 (17.3)	22.7
♀♀	9	70-75 (72.5)	6	16.5-17.5 (17.0)	23.4
Anjouan (<i>T. m. vulpina</i>)					
♂♂	17	74-79 (76.8)	18	17.5-19 (18.2)	23.7
♀♀	14	69-75 (72.4)	12	17-19 (17.6)	24.3
Moheli (<i>T. m. voelzkowiana</i>)					
♂♂	5	73-76 (74.8)	5	17-18 (17.4)	23.3
♀♀	6	68-73 (70.6)	6	16-18 (17.0)	24.0
Grand Comoro (<i>T. m. comorensis</i>)					
♂♂	15	72-78 (75.7)	15	15-17 (16.2)	21.3
♀♀	12	70-74 (71.9)	12	15-17 (15.9)	22.0

In all five series of figures, the bill/wing ratio is higher in females than in males, more especially in the Comoros, so small in area in comparison with Madagascar. This tendency in the Comoros is the opposite of what might be expected from Selander (1966: 143), who has pointed out that sexual dimorphism in the feeding apparatus occurs more frequently in insular birds than would be expected on the basis of chance alone. Incidentally, an inspection of bill/wing ratios in the family Dicruridae as a whole (Vaurie, *Bull. Amer. Mus. Nat. Hist.* 93, 1949: 333-335) shows that it is much more frequently higher in females, although the difference in wing-length between the sexes averages less than in *T. mutata*.

The tail-lengths for the Comoro forms provided by Benson (1960a: 73) indicate much variability, both inter-island and intra-island, particularly in males, Mayotte males attaining the greatest length. A male in Cambridge from Anjouan measures as much as 193 mm. One Malagasy male in the black phase measures as much as 246 mm, a white phase 227 mm, and a maroon phase 254 mm, while females measure up to 87 mm. Tail-length possibly increases with age, though specimens have been examined which had enlarged testes, yet with tail-lengths less than 100 mm. But some others collected in June and July have tails exceeding 200 mm (egg-laying is evidently mainly in October and November, see Rand, *Bull. Amer. Mus. Nat. Hist.* 72, 1936: 433, and Benson, 1960a: 74-75).

It is well known that forms on small islands often tend to show a reduction in sexual dimorphism. This does not appear to be so on Mayotte, the nearest of the four Comoros to Madagascar. But on the other three, the greatest tail-lengths for males are less than on Mayotte and Madagascar. This applies in particular to Moheli, although the sample from this island is very small. Also, males on these three islands are always chestnut in colour, like females,

whereas on Mayotte and Madagascar maroon and white phases occur (on Madagascar also a black phase).

Terpsiphone bourbonensis (P. L. S. Müller)

Salomonsen (1933: 612-614) points out certain similarities between this species, inhabiting Réunion and Mauritius, and the Asiatic *T. affinis* (Blyth) and *paradisi* (Linnaeus), but concluded that it was derived from *mutata*. On geographical grounds this is the most likely. But it has become so strongly differentiated that it is impossible to be at all sure about its ancestry, and it should be remembered that there are other land birds in the Mascarenes apparently of direct Asiatic origin, viz. *Psittacula* spp. and *Collocalia francica*. Yet further examples are drawn attention to by Bourne (*Ibis*, 1968: 343). Salomonsen separated the Mauritius birds as a distinct species, which he called *desolata*, but I agree with Berlioz (1946: 56) that the degree of difference seems no more than subspecific. In both sexes *desolata* is a little darker grey below and darker chestnut above than in nominate *bourbonensis*. A more marked difference is that in adult males *desolata* has the crown and sides of the head more purplish glossed, the gloss extending onto the nape, which in *bourbonensis* is an unglossed grey. My measurements, in millimetres, are:—

	Wing	Tail	Culmen from base
<i>T. b. bourbonensis</i>			
2♂♂	70, 70	75, one incomplete	15.5, 16
9♀♀	65-70 (67.9)	65-73 (69.5)	15-16 (15.3)
<i>T. b. desolata</i>			
9♂♂	70-77 (73.5)	71-78 (74.2)	16-17.5 (16.4)
4♀♀	69-73 (70.7)	68-73 (70.5)	15-17 (16.4)

I can also agree with Salomonsen that *desolata* is the larger. Bill/wing ratios work out at 22.5 for both sexes of *bourbonensis*; 22.3 for the male of *desolata*, 23.2 for the female. These figures are only a little higher than for *T. mutata* on Madagascar and Grand Comoro, but not so high as for the other three Comoros.

Sexual dimorphism in *T. bourbonensis* is slight, less marked than in any form of *mutata*. There is no appreciable lengthening of the tail in the male, and the only difference in colour is that the male has the crown and sides of the head much more glossy than has the female. There is no sign of white in the greater primary coverts, always white in adult males of *mutata*.

There is in Cambridge an undated and unsexed feathered nestling, labelled by Edward Newton as from Mauritius. It has wing 53, culmen from base 12.5 mm. It lacks a tail. It is chestnut in colour, including the whole of the head; the abdomen greyish white; the primaries and their coverts and the greater wing-coverts dark brown, and the secondaries dark brown with the margins of the outer webs chestnut.

Terpsiphone corvina (E. Newton)

Gaymer *et al.* (*Ibis*, 1969: 170) suggest that this very distinct species, endemic to the Seychelles, may have a Malagasy ancestry. This may be so, though the same possibility applies as with *bourbonensis*. Hall & Moreau (1970: 230) place both *corvina* and *atrochalybea* of São Tomé as derivatives of the African *viridis*. There can scarcely be any doubt that this applies for *atrochalybea*. If it does also for *corvina*, it was probably derived from *viridis* stock which had first invaded Madagascar.

Measurements are given in Table 2. Unlike *Foudia sebellarum* (see Benson, *Bull. Brit. Orn. Cl.*, 1971: 4), there is no indication of any inter-island difference, nor is there any difference in colour. As with *mutata*, there is much

Table 2. Some measurements for *Terpsiphone corvina*, in millimetres

Wing	Tail	(1) Males	Culmen from base
		Marianne	
88, 89, 90, 91	111, 125, 202, 271	Praslin	19, 19, 20, one broken
87, 88, 88, 89, 90, 90, 91, 92, 92	83, 116, 222, 246, 247, 259, 272, 277, 291	La Digue	19, 20, 20, 20, 20.5, 21, 21, 22, one broken
87, 90, 91, 92	176, 247, 250, 262	"Seychelles" (no island specified)	19, 20, 21.5, 22
87, 88, 88, 88, 89, 90, 93, 93	112, 167, 213, 260, 260, 264, 296, 301		19, 19, 19, 20.5, 20.5, 21, 21, 21.5
Overall combined figures			
87-93 (89.6)	83-301		19-22 (20.2)
(2) Females			
		Marianne	
78, 86	89, 110	Praslin	19, 20
82, 82, 84	84, 92, 103	La Digue	19.5, 19.5, 21
80, 81, 85, 85, 86	83, 88, 89, 102, 105	"Seychelles" (no island specified)	19.5, 20, 20, 20, 21
78, 81, 84	76, 91, 95		18.5, 21, 21.5
Overall combined figures			
78-86 (82.4)	83-110		18.5-21.5 (20.0)

$$\frac{100 \times \text{bill}}{\text{wing}} : 22.5 \text{ for } \sigma\sigma, 24.3 \text{ for } \text{♀♀}$$

variation in the tail-lengths of males. Gaymer *et al.* (1969: 169) suggest that this is related to age, younger birds having shorter tails. A male in Paris from Marianne with a tail-length of 125 mm only has some feathers which instead of being the normal dark blue are a mixture of this colour and chestnut or (on the abdomen) white, as detailed by Salomonsen (1933: 611); another in London, marked "Seychelles", tail 167 mm, having some white fringes on the abdomen. Salomonsen points out that the first of these two may represent a more primitive stage, and that the second represents the normal aspect in *atrochalybea*. Possibly neither is fully adult, but all of the other males measured, some of which have shorter tails, have the plumage entirely dark blue. Nevertheless, it may be that in both *mutata* and *corvina* the tail-length does increase with age. As with *mutata*, the variability is unlikely to be seasonal. All four Marianne males, with tails ranging from 111 to 271 mm, were collected in September, which according to Gaymer *et al.* is just before the start of the main breeding season. From wing-lengths, *corvina* is a larger species than *mutata*, the tail in the male about the same length in proportion. There is a more accentuated sexual difference in the bill/wing ratio than in *mutata*, the figure for the female being as much as 1.8 higher than for the male. The measurements were very carefully taken and presumably reflect the truth. While the ratios are higher than for *mutata* on Madagascar, they are no higher than some of the Comoro ratios.

It might be expected that in so remote an archipelago as the Seychelles sexual dimorphism would have been reduced, as is the case with *T. bourbonensis* in the Mascarenes and indeed with *Nectarinia dussumieri* and *Foudia sechellarum* in the Seychelles. In fact it is still very well marked, both in tail-length and in colour. There is a considerable resemblance, in the respective sexes, between *corvina* and *atrochalybea*. [to be continued]

Bulletin of Zoological Nomenclature: Opinions

In continuation of *Bull. Brit. Orn. Cl.* 89, 1969: 171-172, and by permission of the International Trust for Zoological Nomenclature, the following Rulings are quoted as extracts from Opinions published in *Bull. Zool. Nomencl.* affecting birds:—

Opinion 890 (*Bull. Zool. Nomencl.* 26(3), 1969: 141)

The following work is hereby placed on the Official List of Works approved as Available for Zoological Nomenclature with the Title Number 42:

Kerr, Robert, 1792. The Animal Kingdom or Zoological System of the celebrated Sir Charles Linnaeus; Class I Mammalia (Class 2 The Birds) . . . being a translation of that part of the *Systema Naturae*, as . . . published by Prof. Gmelin . . . with numerous additions from more recent zoological writers. London.

Opinion 895 (*Bull. Zool. Nomencl.* 26(5/6), 1970: 194)

(1) Under the plenary powers the specific name *capensis* Daudin, 1800, as published in the combination *Strix bubo capensis*, is hereby suppressed for the purposes of both the Law of Priority and the Law of Homonymy.

(2) The specific name *capensis* Daudin, 1800, as published in the combination *Strix bubo capensis* (as suppressed under the plenary powers in (1) above) is hereby placed on the Official Index of Rejected and Invalid Specific Names in Zoology with the Name Number 911.

(3) The specific name *capensis* Smith, 1834, as published in the binomen *Strix capensis*, is hereby placed on the Official List of Specific Names in Zoology with the Name Number 2341.

Opinion 904 (*Bull. Zool. Nomencl.* 26 (5/6), 1970: 225)

(1) The specific name *pleschanka* Lepechin, 1770, as published in the binomen *Motacilla pleschanka*, which was first published in a non-binominal work, is hereby validated under the plenary powers and is ruled to have precedence over the specific name *leucomela* Pallas, 1770, as published in the binomen *Motacilla leucomela*.

(2) The following specific names are hereby added to the Official List of Specific Names in Zoology with the Name Numbers specified:

(a) *caspia* Pallas, 1770, as published in the binomen *Sterna caspia* (Name No. 2363);

(b) *pleschanka* Lepechin, 1770, as published in the binomen *Motacilla pleschanka* (validated under the plenary powers in (1) above) (Name No. 2364).

(3) The specific name *tschegrava* Lepechin, 1770, as published in the binomen *Sterna tschegrava* (a name published in a non-binominal work) is hereby placed on the Official Index of Rejected and Invalid Specific Names in Zoology with the Name Number 922.